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ABSTRACT

A study was conducted to obtain information on community college students' predispostion to transfer to four-year institutions. A sample of 2,957 students in 24 urban community colleges participating in the Transfer Opportunities Program was surveyed. The survey instrument was designed to assess student predisposition to transfer, gather background and demographic information, determine students' academic orientation as exemplified by their study habits, determine students' self-appraisal of their competency, obtain students' perceptions of institutional services related to transfer, and determine students' involvement in the academic environment. Study findings, based on responses from 1,613 students, included the following: (1) 60% of the respondents were 25 years old or younger; (2) 54.2% had completed 30 or more credits; (3) 74.2% planned to earn a baccalaureate degree or higher; (4) 52.2% cited preparing for transfer as their primary reason for attending college, while 31.4% were preparing to enter a specific occupation, and 9.5% were attending to advance in a career; (5) the proportion of Asian (70%) and Hispanic (62.8%) students attending college to prepare for transfer was higher than that for Black (44.7%) and White (47.9%) students; and (6) the distribution of the total sample on the Predisposition to Transfer Index revealed that 22.4% of the students showed a high predisposition to transfer, while 58.8% fell in the low predisposition to transfer category. (HB)

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STUDENT PREDISPOSITION TO TRANSFER: A REPORT OF PRELIMINARY FINDINGS

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SUMMARY OF FINDINGS

-Almost three-fourths of the sampled students indicated that they plan on obtaining a B.A. or higher degree.

-Slightly over half of the sampled students indicated that their primary reason for attending college is to prepare for transfer to a four-year college or university.

-The proportion of Asian (70.0%) and Hispanic (62.8%) students indicating preparing for transfer as their primary reason for attending college is considerably higher than for black (44.7%) and white (47.9%) students.

-The distribution of the total sample on the Predisposition to Transfer Index revealed that 22.4 percent of the students showed a high predispostion to transfer, as compared to 58.8 percent who fell into the low predisposition to transfer category.

-Among students who plan on obtaining a B.A. or higher degree, only 30.7 percent fell into the category of high predisposition to transfer.

-Among minority students, 28.1 percent of Asians, 21.6 percent of Hispanics, and 17.4 percent of blacks showed a high predisposition to transfer. For whites, the percentage was 27.3.

INTRODUCTION

In January 1984, the Center received a grant from the Ford Foundation to evaluate selected aspects of the 24 urban community colleges participating in the Transfer Opportunities Program (TOP). Essentially we were asked to identify potential and actual inducers and inhibitors of the transfer function in community colleges.

In developing the research design for this study, we decided to focus on three aspects: student characteristics relative to transfer predisposition, faculty attitudes towards transfer education, and institutional characteristics reflecting structural differences that might affect transfer rates. Data on students and faculty were collected through survey instruments, and data on the institutions (e.g., size, degrees conferred, financial resources, etc.) were gathered primarily from HEGIS reports and from the Office of Civil Rights data base on degrees conferred.

In this report we present some of the preliminary findings on student predisposition to transfer to senior institutions. Findings on faculty attitudes and institutional characteristics in relation to student predisposition to transfer will be presented in subsequent reports.

The report is organized into four major sections. A short discussion of the concept we have labeled as Predisposition to Transfer is provided in the first section; in the second section we describe the method employed to assess predisposition to transfer among the student sample from the 24 TOP colleges; and

in the third section we describe and analyze some of our preliminary findings. Suggestions for future research directions are included in the last section of the report. This document is not intended as a final report on the results of the student survey; instead it should be treated as a discussion piece.

I. STUDENT TRANSFER PREDISPOSITION

Nationwide, seventy-five percent of full-time community college freshmen claim that the highest degree they plan on obtaining at least a baccalaureate degree; however, follow-up studies have revealed consistently that only twenty-five percent actually achieve their initial aspirations (Astin, 1982). For the most part, low rates of transfer and B.A. attainment among community college students have been attributed to organizational characteristics that preclude these institutions from exposing their students to the kinds of collegiate experiences believed to increase persistence among four-year college students (Astin, 1977). Additionally, according to some observers of community colleges, the priority that has commanded the greatest attention of community college administrators in recent years has been that of maximizing enrollments (Breneman and Nelson, 1981) to the detriment of program quality (Richardson, Fiske, and Okun, 1983). For instance, in many community colleges little concern is shown for the liberal arts (Cohen and Brawer, 1982), courses that typically represetnt the transfer function. Similarly some have reduced other practices that are essential to the transfer function--for example, counseling and advisement (Cohen and Brawer, 1982; Richardson, Fiske, and Okun, 1983).

In general, the consensus among community college critics is that the failure among large numbers of community college students to attain the B.A. is linked to the unsuitability of community colleges' organizational characteristics in fostering a climate conducive to transfer education, and because

administrative actions have further weakened programs and activities essential to transfer education. It is doubtful that institutional characteristics alone could have brought about the disparity that exists between the stated aspirations of community college students for a B.A. degree and actual rates of attainment.

A major factor likely to determine student outcomes, but one that has been noticeably overlooked in most research efforts, is the degree of commitment two-year college students have towards the goal of transferring to a senior institution and earning a B.A. In other words, verbal or written claims of aspiration to a B.A. degree are not synonymous with active intent. Students may indicate that they aspire to a B.A. degree or to a career that requires a B.A. or higher degree, yet not engage in activities or exhibit behaviors directed towards attaining these stated educational or career goals. Thus, although it is known that three-fourths of community college first-time entrants aspire to a B.A., we do not know the extent to which students are firmly committed to that goal or even its relative importance to other goals. Furthermore, what are student aspirations? More than 30 percent of the students entering community colleges in 1983 said they intended obtaining a B.A. or higher degree at <u>that college</u> (Astin and others, 1983). Their unrealistic aspirations may be tempered by the realization that they have little conception of the structure of higher education.

Consequently, the questionnaire we administered to a sample of students in the 24 TOP colleges included a comprehensive set of items that would be used to construct an index of

predisposition to transfer. In addition, there were items on student background characteristics as well as items measuring student involvement in different aspects of the academic and social environment of their institutions (see Appendix B for sample copy of questionnaire). The questions underlying this study were:

(1) What is the distribution of our sample on the predisposition to transfer index?

(2) Are there differences in predisposition to transfer among students who aspire to a B.A. degree?

(3) What student and institutional characteristics appear to influence differences in predisposition to transfer?

The data analyses concluded to this point enable us to respond fully to the first two questions only because we are still in the process of identifying the independent variables (student and institutional characteristics) that correlate with predisposition to transfer. The section that follows discusses the steps that led up to the construction of the predisposition to transfer index.

II. METHODOLOGY

Sample Selection

Two related samples were selected, one of faculty and one of students, since each would be given different survey questionnaires. Hence, although the faculty data will not be discussed in this report, the manner of selecting the faculty is an integral part of the student sampling procedure.

The first step involved obtaining a random sample of faculty members of the 24 TOP colleges. This nationwide sample was selected by the Foundation, and represents two-year institutions that have at least one-third minority enrollment, are under public control, have an open-door admissions policy, and are located in urban areas. The desired sample size was to be approximately eight percent of the total faculty in these colleges.

By adding the colleges' October, 1982 headcount enrollments and dividing by 32 (an estimate of average class size), an approximation of the total number of course offerings was derived. Based on this approximation, it was decided that taking every twentieth eligible course section from the Spring, 1984 class schedules would generate the desired sample size. A different starting point for counting the courses was randomly determined for each schedule to avoid order bias, and care was taken to avoid selecting courses taught by the same instructor. Only courses with academic transfer credit were eligible for selection (e.g., English 101, Math 104, Law Enforcement 103,

General Engineering 2). Also excluded for logistic reasons regarding administration of the student survey were laboratories and workshops, physical education classes, independent or directed studies, field studies, open entry-exit courses, and off-campus courses. The resulting faculty sample was 444 instructors.

The student sample was obtained through a stratified random sample procedure. This step involved selecting every third class section from those chosen to create the faculty sample, which resulted in 112 targeted sections; students enrolled in these courses would receive the student questionnaire. Thus the class section was used as the unit of sampling even though the student is the unit of analysis. This was deemed the most feasible way of administering the questionnaire and does achieve a random sample of students enrolled in transfer courses. To avoid having students take the questionnaire more than once, the instructors who administered the questionnaires were told to excuse from participation any students who had already answered the survey in a previous class.

Student Questionnaire

The student questionnaire (see Appendix A) was madeup of item sets designed to: (1) identify student demographic and background characteristics; (2) determine students' academic orientation as exemplified by study-habits and involvement in education related activities; (3) determine student self-appraisal of their competency in areas of general education; (4) determine students' perceptions of institutional

effectiveness regarding transfer-related services; and (5) determine extent of student involvement in the overall institutional environment. All of these items comprise the independent variables.

In addition to the item sets described above, the questionnaire also included a set of 27 items explicitly designed for the purpose of assessing student predisposition to transfer. These items therefore comprise the dependent variable--predisposition to transfer. A detailed description of the method used to construct the index from these variables is provided below.

The items included in the questionnaire were generated from survey instruments developed by the Center for other studies it has conducted of community colleges. Also, we relied to some extent on items included in the student information form used as part of the annual survey of American freshmen, jointly sponsored by the American Council on Education and University of California at Los Angeles as well as on Pace's College Student Experiences questionnaire (Pace, 1963). Items related to predisposition to transfer were developed for the specific purposes of this study.

Data Collection

The questionnaires were administered during the Spring, 1984 semester, from April through June. The 24 colleges supplied enrollment figures for each targeted class section so that an appropriate number of questionnaires could be sent to each instructor. A total of 2,957 student questionnaires was mailed, of

which 1750 usable questionnaires were returned. Some of these, however, were responses from students who had already earned a bachelor's or higher degree, and who therefore would not be in a community college preparing to transfer to a four-year college. These students were therefore removed from the sample, leaving the data from 1,613 students for subsequent analysis.

Constructing the Predisposition to Transfer Index

Initial item selection. The first step in creating the Predisposition to Transfer Index was the selection of questionnaire items for possible inclusion based on their face validity. Items were selected for consideration if they could logically be taken to indicate transfer predisposition based on one or more of the following four criteria:

(1) the item reflected student aspirations indicative of transfer expectations;

(2) the item reflected student awareness of transfer opportunities;

(3) the item reflected student planning in anticipation of transferring;

(4) the item reflected the relative importance of transferring to the student.

Using these criteria, 27 items were chosen. These items represented measures of student attitudes regarding transfer, transfer aspirations, knowledge regarding transfer requirements, and transfer-related behavior. The following list presents some examples of the items initially chosen as possible index components:

Attitudes Regarding Transfer

"Transferring to a four-year college is not that important to me." (the student was asked to indicate agreement, disagreement, or neutrality.)

"Transfer courses are not very useful because you don't learn any practical skills." (same type of response as above.)

Transfer Aspirations

"What is the primary reason that you are attending college?" (the student was to mark only one of the four possible choices)

- -To prepare for transfer to a four-year college or university.
- -To gain skills necessary to enter a specific occupation.
- -To gain skills necessary to advance in a current occupation.
- -To satisfy a personal interest.

Knowledge Regarding Transfer Requirements

"How do you know which of the courses you are taking this semester or quarter are eligible for transfer to a four-year college?" (the student was to check as many response choices as applied)

- -The catalog and/or course schedule designates the course as transfer eligible.
- -My counselors told me.
- -I checked with the four-year college which I plan to attend.
- -A friend told me.
- -I don't know which of my courses will be accepted for transfer to a four-year college.

Transfer-Related Behavior

"Please indicate how often you have engaged in the following activities." (the student was asked to indicate either frequently, occasionally, or rarely.)

- -Discussed transfer opportunities to four-year colleges with friends.
- -Sought information on transfer opportunities from the counseling office.

Final Item Selection

The final selection of items to comprise the index was made on the basis of a factor analysis performed via the prepackaged computer program SPSSX (Statistical Package for the Social Sciences, Version 10), using the principal axis method of extraction with varimax orthogonal rotation and number of factors to be extracted determined by retaining only those with an eigenvalue greater than or equal to one. Cases with missing values on any of the 27 potential index items were omitted from the analysis, leaving 739 respondents.

Rationale for using factor analysis. The main purpose of factor analysis is to ascertain the underlying associations, or factors, that some set of observed variables may have in common. It is useful as a means of index construction in the following three ways: (1) examination of the assumption of unidimensionality; (2) clarification of the relative utility of each item as part of the index; (3) verification that the direction of the relationships among the variables to comprise the index are appropriate.

The idea of unidimensionality involves the assumption that the individual items of an index are conjointly measuring some single attribute. Ideally, this relationship would be such that all variation in the index items is explained by a single factor. However, given the complexity of human behavior, attitudes, and other attributes, this ideal condition is difficult to obtain. Furthermore, finding more than one common factor underlying a set of index items does not necessarily indicate a lack of

unidimensionality; it can also indicate there are sub-dimensions of a single, overall attribute. Nonetheless, if the items are serving to conjointly measure the single attribute called "predisposition to transfer", then the underlying factorial structure should be such that the first factor that is extracted accounts for a much larger proportion of the explained total variations among the items than any of the rest of the factors.

Clarification of each individual item's relative utility as part of the index centers on how strong a relationship the variable has with the common factor or factors. Factor analysis produces a set of weights, or factor loadings, that can be interpreted as indicating how much each factor contributes to each variable. These weights become especially meaningful after the factors have been rotated so that they are orthogonal, i.e., are defined in such a way that they bear no association with each other. Then a variable that loads high on one factor should have low loadings on the others. Since factors usually have varying degrees of explanatory power, by retaining items that load high on the factors with higher amounts of explained variation, the probability is enhanced that these items will be the best index components.

Factor loadings are calculated so that the closer they are to zero, the smaller the factor's contribution to explaining the associated variables. It was decided for the purposes of this study to retain only items with loadings greater than (+) or (-) 0.30 on the more significant factors.

Verification that the directionality of the relationships among the potential index items involves examining the signs of

the item's factor loadings. Although the positiveness or negativeness of a factor loading has no intrinsic meaning as far as the variables direct contribution to a factor is concerned, it does indicate the direction of a variable's association with a factor relative to the relationships of the other variables to that factor. Only the signs of factor loadings on the first factor will be used for this verification.

Results of Factor Analysis

The analysis extracted ten factors which as a whole explained 39.3 percent of the total variation. However, the first factor explained 12.2 percent, almost one-third of the total. This was taken to indicate at least a tendency toward unidimensionality if the list of items were pared down to the best possible in terms of their association with the more significant factors. Of these, the first factor was by far the most important, with the second coming in at less than half the explanatory power (5.5 percent of the explained variance), and the rest of the factors dropping farther in their explanatory contributions. Furthermore, a close examination of the variables with high loadings (+/- 0.30) on each factor revealed that, after the second factor, only one or two items per factor showed loadings in the high range. Hence, it was decided to retain only those items that loaded high on the first four factors.

As a result, thirteen items were picked to comprise the index. Of these, four were actually variables created out of two items which could meaningfully be scored as such, leaving a total of eleven items for the index. These items were as follows:

1. TRANSIMP "Transferring to a four-year college is not that important to me." (The student was asked to disagree, express neutrality, or agree.)

2. JOBIMP "For me, getting a job is more important than transferring to a four-year college." (Same response choices as in item 1.)

3. NOWORRY "Transferring to a four-year college is too far in the future to worry about it now." (Same response choices as above.)

4. DISAPPOINT "If I don't transfer to a four-year college I will feel disappointed." (Same response choices as above.)

5. TRANSPREPARE Main reason for attending college is to prepare for transfer to a four-year college or university.

6. CONTACT4YRCOLL If student plans to transfer, he/she has contacted the college and requested catalogs and application forms.

7. VISIT4YRCOLL If student plans to transfer, he/she has visited the college.

8. COURSECREDIT Student knows his/her courses are transfer eligible because he/she has checked with the four-year college he/she plans to attend.

9. #INSTAPPLIED Before enrolling in the community college the student had applied to at least one other college.

10. TRANSTALKFREQ Student frequently talks about transferring with friends.

11. TRANSTALKOCC Student occasionally talks about transferring with friends. (This is actually from the same questionnaire item as number 10; items 10 and 11 will be treated as one in the index.)

12. OCCSEEKSTRANSINFO Student occasionally has sought information about transfer opportunities from the counseling office.

13. FREQSEEKSTRANSINFO Student frequently has sought information about transfer opportunities from the counseling office. (Again, 12 and 13 are really one item on the questionnaire and will be one item in the index.)

Table 1 below presents the rotated factor loadings of these items on the first four factors. Items one through six show loadings above (+) or (-) 0.30 on the first factor; items seven through nine load high on the second factor; items ten and eleven come in on the third factor, while items twelve and thirteen load high on the fourth factor. An examination of the signs of the loadings on the first factor reveals that all these items are relating to each other in the expected direction. Items five through thirteen were coded so that one meant "yes" and zero meant "no." Therefore that all are positive indicates that students whose main reason for attending college is to prepare for transfer also tend to have contacted their targeted college for catalogs and application for admissions; to have visited it; to know course transfer eligibility by having inquired with the targeted four-year college(s); to have applied to more than one college prior to enrolling in the community college; to talk about transfer with friends; and to have asked counselors for transfer information. Items one through four are coded so that -1 indicated disagreement, 0 indicated neutrality, and +1 indicated agreement. Hence, students who fit the above response pattern on items five through thirteen, also tended to disagree with the statements that transfer is not important, that getting a job was more important than transfer, and that transferring to a four-year college was too far in the future to worry about. On the other hand, they agreed with the statement that they would be disappointed if they did not achieve their transfer goals.

Table 1

Rotated Factor Loadings of Initially Selected Index Items

Item #	Item	Rotated Factor Loadings			
		Factor 1	Factor 2	Factor 3	Factor 4
1	TRANSIMP	-0.508	-0.109	0.044	-0.016
2	JOBIMP	-0.564	-0.062	0.034	0.039
3	NOWORRY	-0.575	-0.152	0.066	0.042
4	DISAPPOINT	0.505	0.067	0.030	0.031
5	TRANSPREPARE	0.479	0.103	-0.017	-0.002
6	CONTACT4YRCOLL	0.176	0.620	-0.024	0.022
7	VISIT4YRCOLL	0.067	0.507	0.030	0.010
8	COURSECREDIT	0.158	0.495	-0.152	0.076
9	#INSTAPPLIED	0.086	0.351	0.011	0.003
10*	TRANSTALKFREQ	0.188	0.144	-0.794	0.087
11*	TRANSTALKOCC	0.057	0.007	0.716	-0.114
12**	OCCSEEKSTRANSINFO	0.011	0.002	0.114	-0.755
13**	FREQSEEKSTRANSINFO	0.093	0.152	-0.100	0.673

*Different responses on one item.
**Different responses on one item.

As a final check on the assumption of unidimensionality for the index, a second factor analysis using only the eleven chosen items was performed. This revealed a factorial structure much more in line with the assumption. Only two factors were extracted, with the first factor explaining 23.1 percent of the total variation and the second 6.8 percent. Furthermore, except for items 10/11 (combined) and 12/13 (combined), the other items which load high (+/- 0.30) on the first or second factor are readily interpretable as sub-dimensions of transfer predisposition; the first factor appears to deal with attitudes and expectations, while the second appears to cover behavior and knowledge. The rotated factor loadings from the second factor analysis are presented in Table 2.

Table 2

Rotated Factor Loadings of
Finalized Index Items

Item #	Item	Rotated Factor Loadings	
		Factor 1	Factor 2
1	TRANSIMP	-0.675	-0.107
3	NOWORRY	-0.616	-0.100
2	JOBIMP	-0.380	0.158
5	TRANSPREP	0.525	0.138
4	DISAPPOINT	0.455	0.078
10/11	TRANSTALK	0.398	0.254
12/13	SEEKSTRANSINFO	0.312	0.217
6	CONTACT4YERCOLL	0.233	0.674
7	VISIT4YRCOLL	0.122	0.544
8	COURSECREDIT	0.166	0.503
9	#INSTAPPLIED	0.028	0.316

Disagreeing that transfer is not important (TRANSIMP), disagreeing that transfer is too far off to worry (NOWORRY), disagreeing that getting a job is more important than transfer (JOBIMP), and agreeing that not transferring would be disappointing (DISAPPOINT) load high on the first factor and load

much lower on the second. These four items indicate attitudes toward transfer. Having transfer preparation as the primary reason for college attendance (TRANSPREPARE) loads in a similar manner and represents transfer expectations.

The two other items which load above 0.30 on factor one are not as clearly distinguished as attitudinal; they are talking about transfer with friends (TRANSTALK) and seeking information about transfer (SEEKSTRANSINFO). However, it should be noted that their loadings on factor two are closer to their factor one loadings than was found for the first set of items. This can be interpreted as indicating that these two items involve both attitudes/expectations and behavior.

The second factor clearly appears to be a behavior/knowledge dimension in that all four of the items that load over 0.30 involve transfer-related actions and information. These are: having requested catalogs and admissions applications from the college where the student plans to transfer (CONTACT4YRCOLL), having visited the college (VISIT4YRCOLL), knowing course transfer eligibility as a result of having inquired at the target four-year college (COURSECREDIT), and having applied to at least one other college besides the one currently being attended (#INSTAPPLIED).

Validation of the Index

Tests for index reliability are a means of ascertaining how much measurement error is in the measuring instrument. Reliability refers to the accuracy or precision of an index in terms of predicting the true scores of individuals. It also

refers to an instrument's stability, or lack of random fluctuations over time in repeated tests. There are various statistical tests for reliability, but in general all measure the proportion of measurement error, indicated by within-index variation, to total scale variation, and then comparing that to the true scale variation, or variation between individual index scores.

Using the SPSSX Reliability procedure, several reliability coefficients were calculated. As a means of simulating a repeated test, the split-scale model was used. This model divides the index items into two subsets, then calculates reliability coefficients based on their sums. This allows for comparison of the two subsets in terms of their respective proportions of true scale, and error variation. Below is a description of how to interpret reliability coefficients.

Cronbach's alpha. Probably the most widely used reliability coefficient, it represents the maximum likelihood estimate that the variation in scale scores is true. In the split-scale model, alphas for each subtest are calculated, which can then be compared for similarity; this represents an approximate test for equality in the proportions of true scale and error variation.

Product Moment Correlation. Also known as Pearson's r, it is calculated to indicate the association between the two subsets. It is useful in indicating whether the two halves are measuring the same thing as well as providing indication of probable index stability.

Spearman-Brown Split-Half Coefficient. This reliability coefficient indicates the reliability of the two subsets when

they are combined. Since the two subsets have unequal numbers of items, the Unequal-Length Spearman Brown coefficient is more appropriate.

Guttman Split-Half Coefficient. This coefficient is interpreted similar to the Spearman-Brown split-half coefficient.

Also calculated are corrected item to total correlations, which represent the association between a given item and a composite score based on the other items; these are accompanied by associated Cronbach's alphas which indicate the maximum likelihood estimate of reliability if the item were deleted. The results on the reliability tests conducted are presented on Table 3.

Table 3

Reliability Test: Item to Total Statistics
(N: 1,077)

Item #	Item	Corrected Item-Total Correlation	Alpha if Item Deleted
1	TRANSIMP	0.522	0.702
2	JOBIMP	0.471	0.708
3	NOWORRY	0.47?	0.707
4	D?SAPPOINT	0.357	0.729
5	TRANSPREPARE	0.458	0.715
6	CONTACT4YRCOLL	0.450	0.715
7	VISIT4YRCOLL	0.314	0.730
8	COURSECREDIT	0.342	0.728
9	#INSTAPPLIED	0.159	0.745
10	TRANSTALK	0.424	0.716
11	SEEKSTRANSINFC	0.334	0.715

Reliability Coefficients

Correlation between scale parts: 0.617
Guttman Split-half Coefficient : 0.761
Unequal-Length Spearman-Brown
Coefficient: 0.764

Alpha for part 1: 0.615
Alpha for part 2: 0.548

Tukey Estimate of Power to which observations must be raised to achieve additivity: 1.08

A review of the corrected item to total correlations reveals that all but item nine have moderately strong associations. As with all of the reliability coefficients, the closer a

correlation is to zero, the less the association. Item nine's correlation of 0.159 is much lower that those of the other items, all above 0.30, which could indicate that this item should be discarded. However, the accompanying reliability coefficient, Cronbach's alpha, which is computed in this instance with the given item deleted, shows that the overall reliability of the index would change very little if item nine were dropped; hence, it was retained.

The coefficients calculated to examine total-index reliability reveal that the index is acceptably consistent and stable. All coefficients are above 0.50. A comparison of the alphas for parts one and two show some variation, 0.615 for the first and 0.548 for the second, but this could be caused by the inequality in subset size.

In addition to the reliability coefficients, the results of Tukey's test for additivity is reported. This test examines the items for possible interactive effects, which could spuriously appear as error-caused variations but which really indicate that the items are not additive. The result indicates the power to which the scale would need to be raised to correct for itemitem interaction. The reported value of 1.08 shows that the index items have very little interaction and need no correction.

Computation of the Index Scores

The Predisposition to Transfer Index is an additive scale, meaning that index scores are created by adding the values of the individual index items. The original values assigned the items were recorded, both for the reliability testing and for the

actual score computation as follows: items 1,2 and 3, disagree= +1, neutral= 0, and agree= 1; item 4, disagree= 1, neutral= 0, and agree= +1; item 5, preparing for transfer= +1, any other reason= 0; items 6, 7 and 8, yes= +1, no= 0; item 9, had applied to one or more colleges besides the one currently attended= +1, no others= 0; items 10 and 11, frequently= +1, occasionally= 0, rarely= 1.

One problem to be dealt with was how to treat cases with missing answers on one or more of the items. The factor analyses and reliability testing had been done only in those cases with a complete set of answers, setting the most rigorous conditions for index creation, but also reducing the usable sample size. It was decided that if a person answered at least eight of the items, their score could be used. Hence, to allow for this and still keep all scores comparable, the following formula for score computation was used: for each case, all nonmissing values were added, then divided by the number of valid answers, and then multiplied by the total number of index items (eleven). The scores were rounded off to the nearest integer.

Consequently, individuals with a score of 7 or higher were classified as having a high predisposition to transfer; individuals with scores between 5 and 6 were classified as having average predisposition to transfer; and individuals with scores of less than 5 were classified as having low predisposition to transfer. A discussion of the findings is provided in the section that follows.

FINDINGS

A total of 1750 students from the 24 TOP colleges responded to the questionnaire. A response rate for the overall sample has not been computed because the method used to distribute the questionnaires (sending them to a campus facilitator for secondary distribution to the faculty teaching selected class sections where, they, in turn, were to distribute them to their enrollees) prevents us from determining the number of students who might have received the questionnaire but refused to participate. However, the 1750 usable questionnaires represent 59 percent of the total number distributed to the 24 TOP colleges.

The findings reported here are organized into three subsections. The first subsection provides a descriptive profile of the sample on selected demographic characteristics; the second describes selected characteristics of the respondents who indicated that their primary reason for attending a community college is to prepare for transfer to a four-year college or university. The last subsection describes and explains the sample's distribution on the index of predisposition to transfer.

Demographic Characteristics

Age. Students 25 years old or younger represent 60 percent of the total sample, which indicates that the 24 urban colleges attract large numbers of traditional college-age students.

Student status. Students who have completed 29 or fewer credits, which would be the equivalent of freshman status,

comprise 45.8 percent of the sample; the remainder of the students (54.2%) had completed 30 or more credits. The skewness of the sample towards advanced students was somewhat surprising since in most community colleges first-time students greatly outnumber sophomores. However, many of the units completed may have been in remedial and other classes that do not carry transfer credit. Moreover, the freshman-sophomore distribution in this sample is similar to the Center's survey study of eight large urban community college districts conducted over the past three years under the sponsorship of the Ford Foundation and the Andrew W. Mellon Foundation.

Sex and ethnicity. Females comprise 57 percent of the total sample. The ethnic breakdown for the sample is as follows: black students account for 32.4 percent of the sample, Hispanics for 16.6 percent, Asian-Pacific Islanders for 11.9 percent, and whites for 28.8 percent. Overall minorities represent 66.2 percent of the total sample (including American Indians and Filipinos).

Employment status. Approximately one-third of the respondents (33.2%) are unemployed; another 29 percent of the students hold part-time jobs (20 or less hours per week); students who are employed for 21 or more hours represent 46 percent of the sample. Among the latter group, 20.6 percent work between 31 and 40 hours per week and 10.1 percent work more than forty hours per week.

Annual income. Students from families with incomes of $10,999 or under make up 38.0 percent of the sample; 29.8 percent

of the respondents are from families with incomes between $11,000 and $20,999; and 32.3 percent fall into the $21,000 and over category. Surprisingly, 16.1 percent of the respondents reported incomes of more than $30,000.

Degree aspirations. In response to a question on degree plans, 16.1 percent of the students indicated that the associate is the highest degree they plan on obtaining, compared to 74.2 percent who reported they plan on earning a B.A. or higher degree. In this regard urban community colleges appear to be similar to the universe of community colleges in that the percentage of students aspiring to a B.A. (74.2) is almost the same as that reported for a national sample participating in the annual American Freshman Survey (Astin and others, 1983). The 1983 survey reported that 73 percent of freshmen in public two-year colleges aspire to a B.A. or higher degree.

Primary Reason for Attending College

Before constructing the predisposition to transfer index, we decided to examine the bivariate relationship between students' primary reason for attending college and selected demographic characteristics. We asked students to indicate their primary reason for attending college by selecting only one of the following choices: (1) to prepare for transfer to a four-year college or university; (2) to gain skills necessary to enter a specific occupation; (3) to gain skills necessary to advance in a current occupation; and (4) to satisfy a personal interest.

Although 74.4 percent of the respondents indicated that they

planned on obtaining a B.A. or higher degree, only 52.2 percent of all respondents claimed preparing for transfer as their primary reason for attending college, compared to 31.4 percent who are preparing to enter a specific occupation and 9.5 and 7.0 percent who are attending to advance in a career and to fulfill a personal interest respectively. The following tables depict the relationship found between primary reason for attending college and selected student characteristics.

Table 4

Primary Reason for Attending College and Degree Aspirations

Primary reason attending coll.	Degree Aspirations				
	AA	BA	GRAD	PROF	OTHER
Transfer Prep.	14.5%	62.3%	70.7%	68.0%	29.5%
Enter Occp.	61.8	25.8	19.1	23.7	37.8
Adv. Occp.	17.3	7.3	5.1	4.1	14.3
Personal Int.	6.4	4.6	5.1	4.1	17.4

-As can be seen in the data presented in Table 4, the higher the degree the student aspires to the less likely he will be attending college for vocational reasons.

Table 5

Primary Reason for Attending College
and College Preference

Primary reason for attending college	Institutional Preference				
	State U.	State C.	This Sch.	Oth/CC	LA C.
Transfer Prep.	65.7%	8.5%	20.3%	1.4%	4.1%
Entr. Occp.	35.0	9.8	44.2	8.1	2.9
Adv. Occp.	35.7	8.4	48.3	5.6	2.1
Personal Int.	36.5	15.4	38.5	2.9	6.7

-The data on Table 5 show that two-thirds of the students who chose preparing for transfer as their primary reason for attending college would prefer attending a state university.

-Among students who gave other reason for attending college, one-third indicated their preference for a state university.

Table 6

Reason for Attending College and Ethnicity

	Primary reason for attending college			
Group	Transfer	Entr. Occ.	Adv. Occ.	Personal Int.
Asian	70.0%	15.8%	8.4%	5.8%
Black	44.7	38.5	11.4	5.4
Hispanic	62.8	28.9	5.8	3.4
White	47.9	31.0	10.8	10.2
Other	51.5	30.3	7.9	8.5

-Table 6 reveals some interesting differences among ethnic groups on primary reason for attending college. The percentage of Asian and Hispanic students who selected preparing for transfer as their primary choice for attending college is considerably higher than for either black or white students. Black students, in contrast to all other groups, appear to be more vocationally oriented.

Table 7

Reason for attending college
and employment status

Primary reason attending coll.	Employment Status: Unemployed	20 or less hrs/week	21 or more hrs/week
Transfer Prep.	48.4%	65.0%	49.5%
Entr. Occp.	37.7	25.8	29.0
Adv. Occp	6.4	4.5	14.4
Personal Int.	7.5	4.7	7.1

-Students who select preparing for transfer as their primary reason for attending college are likely to be employed part-time; the percentage of students who are unemployed or working full-time and choose preparing for transfer as their primary reason for attending college is almost the same.

Table 8

Reason for attending college and age

Primary reason attending coll.	Age 18-25 yrs old	26-40 yrs old	Over 40 yrs old
Transfer Prep.	59.0%	46.4%	16.3%
Entr. Occp.	31.1	33.4	26.1
Adv. Occp.	5.5	12.2	32.6
Personal Int.	4.4	8.0	25.0

-Compared to the other age categories, students who are 25 years old or younger are more likely to be attending college to prepare for transfer. Among students who are 40 or older, their primary reason for attending college is for occupational advancement or to satisfy a personal interest.

Table 9

Reason for attending college and student attendance status

Primary reason attending coll.	Attendance Status: Full-time	Attendance Status: Part-time
Transfer Prep.	61.7%	45.4%
Entr. Occp.	27.6	33.3
Adv. Occp.	5.7	13.0
Personal Int.	5.0	8.1

-Full-time students are more likely than part-timers to indicate preparing for transfer as their primary reason for attending college. In contrast, part-timers tend to be more vocationally oriented.

Even though the data presented so far are for a limited set of student characteristics, we can readily detect, in spite of the simplicity in the analysis, the emergence of some distinct student profiles. For instance, we can roughly describe the potential transfer student as someone who aspires to a graduate degree rather than just a B.A.; who would prefer to be attending a state university rather than a community college; and who is more likely to be 25 years old or younger, to have a part-time job, and be a full-time student. And the student is more likely to be Hispanic or Asian, rather than black or white. In addition, these data also confirm our suspicions that the potential transfer student would exhibit the kinds of characteristics normally ascribed to the traditional college-going student (e.g., age, attendance and employment status). Moreover, these data reveal new insights; the most perplexing one being the low proportion of black students who, compared to other ethnic groups, indicated preparing for transfer as their primary reason for attending college.

However, to identify differences among the sample students on degree of commitment to the goal of transferring to a senior institution and B.A. completion requires the combined analyses of several student attributes so as to enable the grouping of students according to differences in predisposition to transfer. With that purpose in mind, we constructed an index of predisposition to transfer.

Distribution of Respondents on Predisposition To Transfer Index

Having constructed the predisposition to transfer index (see methods section for a description of the index), we first applied it to all students in the sample who met the following criteria: (1) they had not earned a degree higher than the associate and (2) they answered at least eight of the eleven questionnaire items used to construct the index. Of the 1750 students in the sample, 1521 met these criteria.

The distribution of respondents on the index was as follows: 22.4 percent fell into the high predisposition gradation of the index; 19.5 percent fell into the middle gradation; and 58.1 percent fell into the low predisposition gradation. Remarkably, the percentage of students who have a high predisposition to transfer (22.4%) is only slightly below the national percentage of students (25%) who begin college in a community college and attain the B.A. (Astin, 1983). The similarity in high predisposition to transfer and actual rate of transfer figures can be interpreted as evidence of the index's ability to discriminate on the likelihood of transfer among different groups of students.

Predisposition to Transfer among Ethnic Groups

The next analysis we conducted was that of assessing predisposition to transfer among the different ethnic groups included in the sample. Our findings are illustrated in Table 10.

Table 10

Predisposition to transfer and ethnicity

Groups	Predisposition to Transfer		
	High	Average	Low
Asian	28.1%	24.0%	47.9%
Black	17.4	18.0	64.5
Hispanic	21.6	21.6	56.9
White	27.3	18.0	54.7
Other	20.3	20.9	58.8
Total Sample	22.4	19.5	58.8

-Asian and white students have the highest percentage of students with a high predisposition to transfer, followed by Hispanics and blacks. Among black students, the proportion with a low predisposition is considerably higher than the average for the total group.

Predisposition to transfer and degree aspirations

The relationship between degree aspirations and predisposition to transfer is shown on Table 11.

Table 11

Predisposition to transfer and degree aspirations

Degree Type	Predisposition to Transfer		
	High	Average	Low
Occ. Cert/ AA	4.8%	7.4%	87.8%
BA/Grad/Prof	30.7	24.9	44.4
Undecided	8.2	10.6	81.2
Other	9.6	9.6	80.8

-Students who aspire to a BA or higher degree have a greater tendency to be concentrated in the high predisposition gradation of the index.

Having determined the distribution of students on the index, the next steps in the analyses of data will involve the development of student profiles that will make it possible to discriminate among students with high, average and low predisposition to transfer on the basis of student and institutional characteristics. By isolating those student and institutional characteristics that contribute to differences in predisposition to transfer, it will be possible to generate a set of recommendations to assist community colleges in developing strategies aimed at strengthening student commitment to the goal of B.A. completion. It is expected that these recommendations will focus on ways in which community colleges can develop academic and social environments tailored to the needs of students who have aspirations for a B.A. degree but who do not exhibit a high predisposition to transfer, in particular those students who fall into the middle part of the index and in the upper end of low predisposition.

IV. Directions for Future Research

At the completion of this study we will have data that will make it possible to make some definitive statements about student predisposition to transfer in relation to faculty and institutional characteristics. In this connection it is expected that we will have identified institutions that have higher proportions of students with a high predisposition to transfer than others; however, we need evidence as to whether these differences are related to structural characteristics (e.g., institutional size) or to other influences such as administrative priorities, academic and programmatic organization, student and faculty cultures. In essence, we do not have a clear idea of environmental conditions that make some urban community colleges more effective than others in promoting transfer education. At any rate we have determined that merely asking students the question "What is the highest degree you intend to obtain?" is misleading; it yields a false impression of the student's goals, involvement, and intentions.

Therefore, we propose for the next phase of this research effort a comparative study to determine organizational differences (if any) between "effective" and "ineffective" community colleges in the transfer function mission. This would require an extensive and intensive case study involving repeated observations, interviews, and document review in at least six of the 24 TOP community colleges.

Unlike survey research, a case study approach would enable us to identify more precisely the ways in which community

colleges succeed or fail at instilling among their students, faculty, and staff a sense of belief and commitment to the collegiate or transfer function. Therefore, this study would make it possible to determine the extent to which effectiveness in transfer education is linked to student and institutional commitment. Clearly, just as there are differences in predisposition to transfer among students who aspire to a B.A., there must be differences among community colleges in degree of commitment to transfer education, even though they all claim providing the first half of a four-year college education as a principal function.

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